

### **REMARKS**

The foregoing amendments and these remarks are in response to the Office Action dated November 14, 2005. Applicants hereby request a two month extension of time. Authorization to charge the extension fees to Deposit Account No. 50-0951 is attached hereto.

At the time of the Office Action, claims 43-46 and 48-54 were pending in the application. In the Office Action, claims 48 and 49 were rejected under 35 U.S.C. §112, second paragraph. Claims 43-46 and 48-54 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting. Claims 43-46 and 48-54 were rejected under 35 U.S.C. §103(a). The rejections are discussed in more detail below.

#### **I. Rejections under 35 U.S.C. §112, second paragraph**

Claims 48 and 49 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Appropriate amendments have been made herein to claims 48 and 49 such that only one recitation of the value of the thermal conductivity of the silicon carbide metal composite is included in each claim. It is believed that the claims so amended overcome the rejection under 35 U.S.C. §112, second paragraph, and withdrawal of this rejection is respectfully requested.

#### **II. Double Patenting Rejection**

Claims 43-46 and 48-54 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-34 of co-pending Application No. 10/018,708 in view of U.S. Patent No. 4,846,673 to Tsukada ("Tsukada"). Applicant does not agree with the rejection, but nevertheless in the interests of obtaining a Notice of Allowance without further argument, a terminal disclaimer is filed herewith to overcome the rejection based upon U.S. Patent Application No. 10/018,708. The Commissioner is hereby authorized to charge the terminal disclaimer fee of \$130.00 to Deposit Account No. 50-0951.

#### **III. Rejections to the claims based upon Art**

Claims 43-46 and 48-54 were rejected under 35 U.S.C. §103(a) as being unpatentable

over U.S. Patent Application No. 10/018,708 in view of Tsukada. Claims 43-46 and 48-54 were rejected under 35 U.S.C. §103(a) as being unpatentable over PCT Publication No. WO 99/38651 in view of Tsukada.

The rejections based upon U.S. Patent Application No. 10/018,708 are moot in view of the terminal disclaimer filed herewith. Nevertheless, to further differentiate the claims, claims 43, 48, 49 and 53 have been amended to specify that the plurality of base materials include an upper base material and a lower base material, wherein the upper base material forms a part of the fluid passage. An example of support for this amendment can be found in the description section of the patent application as filed on page 8, lines 19 to 24, and on page 11 lines 3 to 15.

Neither WO 99/38651 nor Tsukada discloses that the upper base material (2) forms a part of the fluid passage (12), as recited in each of independent claims 43, 48, 49 and 53. Rather, W099/38651 discloses the lower layer (34) forming a part of a fluid passage (32) (see Figs. 1 and 2 of W099/38651). Tsukada discloses impregnating metal silicon in opened bores of a porous body. In contrast, Applicant teaches providing the upper base material forming a part of the fluid passage, so that it is possible to provide the flexibility of a wafer grinder table (2) when a wafer (5) held by a wafer holding plate (6) is pressed against a grinding surface (2a) of the wafer grinder table (2), thereby enhancing the uniformity of the wafer. Accordingly, even if the WO 99/38651 and Tsukada are combined, these results are not achieved. Consequently, claims 43-46 and 48-54 are not obvious over WO 99/38651 in view of Tsukada and withdrawal of such rejection under 35 U.S.C. §103(a) is respectfully requested.

New claim 55 is added herein and recites that the metal silicon impregnated in the porous body and the metal silicon forming the bonding layer are continuous and have no boundaries. None of co-pending Application No. 10/018708, WO 99/38651, or Tsukada disclose the metal silicon impregnated in the porous body and the metal silicon forming the bonding layer being continuous and having no boundaries. Rather, the co-pending Application No. 10/018708 discloses a brazing filler layer (14) containing silver and titanium, for joining bases (11A, 11B). WO 99/38651 discloses a polishing table (12) having an upper plate (30), a second plate (34), and a lower plate (44). Tsukada discloses impregnating metal silicon in opened bores of a porous body. In the present application, the metal silicon adapts well to silicon carbide and has a high thermal conductivity. Thus, by impregnating the metal silicon in the porous body so that


the metal silicon impregnated in the porous body and the metal silicon forming the bonding layer are continuous and have no boundaries, the thermal conductance and strength are improved. Furthermore, no clearance is generated at the bonding interface, which prevents fluid from flowing from the fluid passage. Moreover, the difference in coefficient of thermal expansion between silicon carbide-metal composites and the bonding layer formed from the metal silicon is extremely small. This structure prevents the formation of cracks and exfoliation in the bonding interface to improve the efficiency of thermal diffusion. Accordingly, even if the co-pending Application No. 10/018708, WO 99/38651, and Tsukada are combined, the subject matter of claim 55 having the above advantages is not achieved. Consequently, claim 55 is not obvious over the co-pending Application No. 10/018708 or WO 99/38651 in view of Tsukada.

#### IV. Conclusion

Applicants have made every effort to present claims which distinguish over the prior art, and it is thus believed that all claims are in condition for allowance. Nevertheless, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicants respectfully request reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

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